

Innovative Solutions to Disease Management: USAFA Cadet TB Program

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Objectives

- Summarize the cadet TB “outbreak” investigation at USAFA
- Compare cadet TB program to “standard” TB clinic
- Illustrate the benefits of developing an automated TB disease registry and tracking program

TB Outbreak Investigation

- Active TB case
- Identification of at risk individuals
- TB skin test reaction rates
- Cadet wing screening plan

Active TB case

- 20 year old male C3C native of Peru
- CC: productive cough, wt loss, fever
- Pneumonia Oct 2003
- Hospitalized 8/16 – R/O Active TB
 - CXR – bilateral upper lobe dz, cavitary lesion left apex
 - AFB sent 8/17 (4+ MTB on 8/19)

Identifying “at risk” individuals

- Contact “risk period” - 7/03 to 8/04
- Personal contacts
 - Friends, room mates, sponsor family
- Close contacts
 - BCT, squadron, global engagement
- Other Contacts (class)
- International Students

TB skin test rates

Category	Subcategory	Positive s	Screened	Rate
Personal		1	19	0.05
Close		15	122	0.12
International		37	48	0.77
	No Contact	23	30	0.77
	Class contact	14	18	0.78
Other		22	192	0.11
All		75	381	0.2
International Removed		38	333	0.11

Cadet Wing Screening Plan

- MDG CC directive – “screen all cadets”
 - Developed risk stratification tool (atch 1)
 - Screening scheduled Nov 04
 - Coordinate with Influenza Vaccine program
 - Ability for 90 day retest of “contacts”
 - TB testing completed 30 Nov to 3 Dec

USAFA Cadet TB Program

- Typical AF TB visit/clinic
- USAFA TB management obstacles
- Evolution of cadet TB clinic

Typical AF TB visit/clinic

- Screening intake with public health
- PCM assessment and follow-up
- Monthly follow-up (10-15 min appts)
 - Medication compliance, side effects, AST monitoring
- PCM team tracking (variable compliance)

Cadet TB Obstacles

- Large influx of latent TB patients
 - Appointment demand > availability
 - Compliance tracking (meds, labs)
 - Patient access for side effect resolution
- Public relations nightmare
 - Imperative to standardize management of latent TB patients

Evolution of Cadet TB Clinic

- “Index Contact” group (n=75)
 - Date positive TB test
 - PH screening, CXR, lab and provider evaluation
 - Follow-up visits
 - walk-in clinic 1 day/month
 - 2 public health techs and 1 provider
 - INH/B6 dispersed by TB clinic directly

Cadet TB Clinic (cont)

- “Wing Screening” group (n=245)
 - Date positive TB test
 - PH screening/risk stratification
 - Labs, CXR obtained the following week
 - Provider evaluation
 - Group walk-in appts ~40 cadets/day
 - Follow-up visits
 - Outreach follow-up versus clinic based
 - TB treatment questionnaire (atch 2)

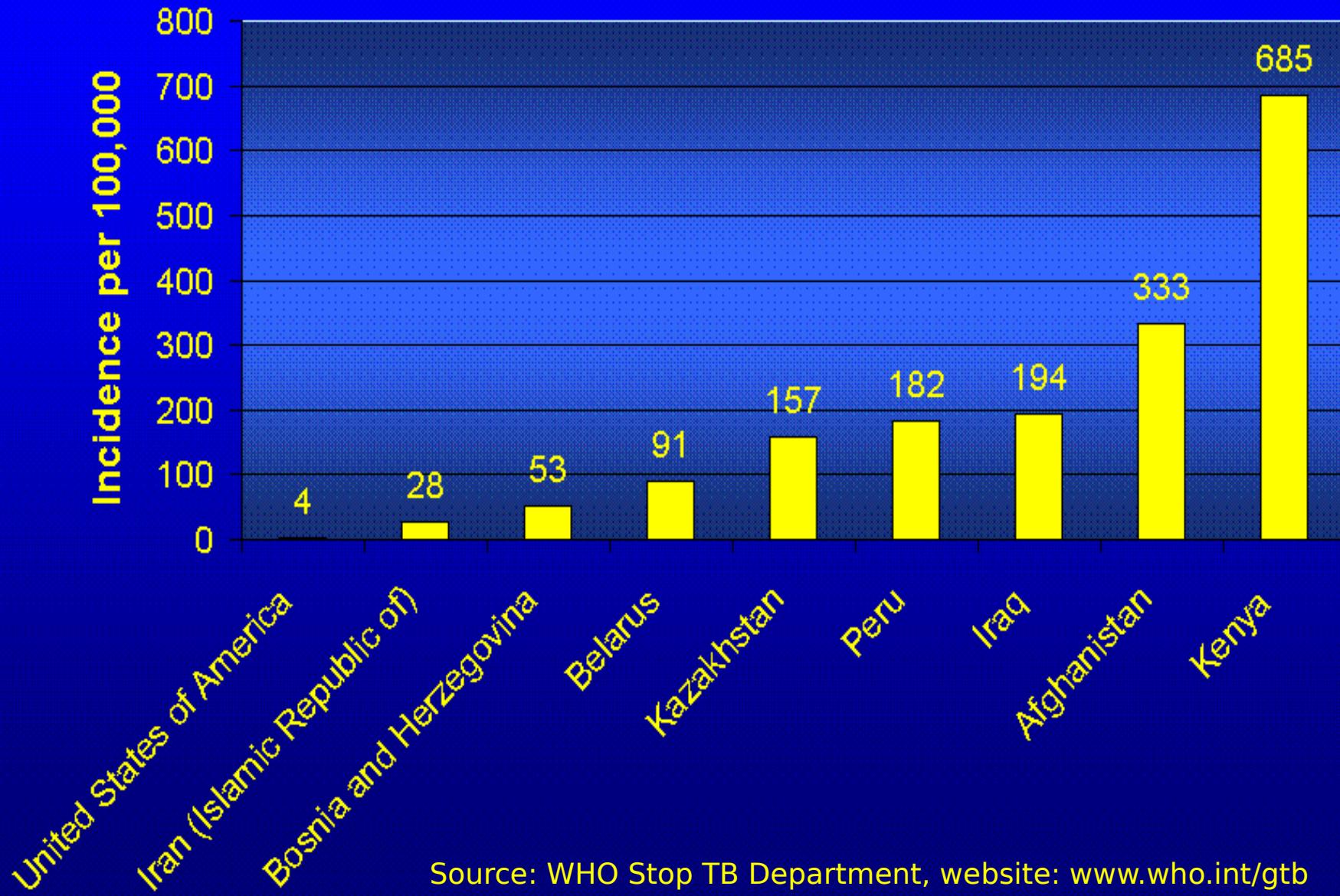
Automated TB Registry and Tracking Program

- Why is TB registry important?
- Obstacles of TB management
- Objectives of TB registry
- Components of TB registry

Why is TB Registry Important?

- Increased deployment tempo
- Insertion into high risk regions
- Increased contact with indigent population
- Increased utilization of reserve units

Estimated Incidence of TB in 2004



Source: WHO Stop TB Department, website: www.who.int/gtb

Treatment Obstacles for LTBI

- Patient Centered Obstacles
 - Who, what, where, when and why of TB?
 - Medication use and side effects
- System Based Obstacles
 - Treatment Standardization
 - Appointment access/availability
 - Tracking and monitoring
 - Patient compliance, medication side effects
- Portability

Objectives of TB registry

- Standardize screening/management
- Automate tracking and notification
- Reduce appointment utilization
 - 1st month ~20% clinic visit
 - 2nd-3rd month ~5% clinic visit
 - >3rd month negligible
 - Cost Savings ~50K/100 patients with LTBI
- Data warehouse
- Portability

Components of TB registry

- Web-based application
- Integrated platform
- Desk-top data entry/retrieval
- Email notification/alert system
- Longitudinal tracking/portability
- Standardized documentation of LTBI
- Template for other disease entities

QUESTIONS?